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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,005	02/14/2000	Sami Boutros	CISCO-1935	7397

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EXAMINER

KLIMACH, PAULA W

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/504,005

Applicant(s)

BOUTROS ET AL.

Examiner

Paula W. Klimach

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/08/05 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. Patent 5,996,077) in view of O'Brien et al. (6,658,571 B1).

In reference to claim 27, Williams discloses a hierarchical arrangement of security devices for securing a protected network through a plurality of security devices (abstract). The device consists of a legacy firewall (security device A, principle device) connected to each of a plurality of communication interfaces (public and protected network) and executing at least on inspection module is software code configured to carry out an operation of providing protocol information for a particular protocol to said firewall core (column 5 line 53 to column 6 line 6); and a new

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inspection module inserted into an operating memory of said firewall core wherein said new inspection module is software code configured to carry out an operation of providing protocol information for a particular protocol to said firewall core (column 4 lines 1-28 in combination with Fig. 2).

Although Williams discloses the next generation of firewall coexisting with the legacy firewall, Williams does not expressly disclose the new inspection module inserted during operation of said firewall core.

However, O'Brien disclose the separate subsystem consisting of at least one inspection module coupled for communication to the user space, said inspection module configured to provide protocol inspection of data (column 3 lines 39-56), said inspection module is further configured to be installed during the operation of the system (column 3 lines 56-64).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use security modules as in O'Brien to provide protocol inspection in the system of Williams. One of ordinary skill in the art would have been motivated to do this because security information that is application and resource specific which would reduce the damage that malicious software can cause in the event that malicious software is accidentally executed without additional hardware, or modification to the individual software applications or the underlying operating system.

In reference to claim 32, Williams discloses a hierarchical arrangement of security devices for securing a protected network through a plurality of security devices (abstract). A communication unit wherein said communication unit is operatively coupled to each one of communication interfaces connected to said network (parts 101 and 102 Fig. 2). A firewall core

(principle device) and one of said at least one inspection modules (security devices) and wherein each said at least one inspection module is software code configured to carry out the operation of providing protocol information and to inspect data packets of a particular protocol (column 4 lines 1-28 in combination with Fig. 2).

Although Williams discloses the communication to the security devices (Fig 2.) Williams does not disclose a set of call back functions, retrieved from said inspection module, each function providing communication between the firewall core and the inspection module. In addition the firewall core (principle device) disclosed by Williams is not further configured to monitor memory to determine when a new inspection module is loaded into said memory.

O'Brien discloses a set of callback functions, retrieved from said inspection module, each said function providing communication between the security master and said inspection module (column 5 lines 15-27). In addition the system of O'Brien is configured to monitor a memory to determine when a new inspection module is loaded into said memory (column 5 lines 28-46).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use callback functions from security modules as in O'Brien to provide protocol inspection in the system of Williams. One of ordinary skill in the art would have been motivated to do this because callback functions allow the security modules to communicate with the user space so that security information that is application and resource specific which would reduce the damage that malicious software can cause in the event that malicious software is accidentally executed without additional hardware, or modification to the individual software applications or the underlying operating system.

In reference to claim 36, Williams discloses a hierarchical arrangement of security devices for securing a protected network through a plurality of security devices (abstract). The inspection unit is configured to inspect and authorize data packets (column 4 lines 62-65); a function table which corresponds to a connection table (column 7 lines 31-36).

Although Williams discloses the communication to the security devices (Fig 2.) and a connection table, Williams does not disclose a set of call back functions, retrieved from said inspection module, each function providing communication between the firewall core and the inspection module. In addition the firewall core (principle device) disclosed by Williams is not further configured to monitor memory to determine when a new inspection module is loaded into said memory.

O'Brien discloses a set of callback functions, retrieved from said inspection module, each said function providing communication between the security master and said inspection module (column 5 lines 15-27). In addition the system of O'Brien is configured to monitor a memory to determine when a new inspection module is loaded into said memory (column 5 lines 28-46).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use callback functions from security modules as in O'Brien to provide protocol inspection in the system of Williams. One of ordinary skill in the art would have been motivated to do this because callback functions allow the security modules to communicate with the user space so that security information that is application and resource specific which would reduce the damage that malicious software can cause in the event that malicious software is accidentally executed without additional hardware, or modification to the individual software applications or the underlying operating system.

In reference to claims 39 and 43, Williams discloses a hierachical arrangement of security devices for securing a protected network through a plurality of security devices (abstract). The inspection unit is configured to inspect and authorize data packets (column 4 lines 62-65).

O'Brien discloses a) loading an inspection module comprising new protocol inspection knowledge and a function table having a set of callback functions (column 5 lines 1-27); to b) notifying the security master of said inspection module (column 5 lines 12-27); and c) communicating said set of callback functions to the security master (column 5 lines 27-45).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use callback functions from security modules as in O'Brien to provide protocol inspection in the system of Williams. One of ordinary skill in the art would have been motivated to do this because callback functions allow the security modules to communicate with the user space so that security information that is application and resource specific which would reduce the damage that malicious software can cause in the event that malicious software is accidentally executed without additional hardware, or modification to the individual software applications or the underlying operating system.

In reference to claim 28, wherein the firewall core is configured to monitor said operation memory for said new inspection module.

O'Brien is configured to monitor a memory to determine when a new inspection module is loaded into said memory (column 5 lines 28-46).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use callback functions from security modules as in O'Brien to provide protocol

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inspection in the system of Williams. One of ordinary skill in the art would have been motivated to do this because callback functions allow the security modules to communicate with the user space so that security information that is application and resource specific which would reduce the damage that malicious software can cause in the event that malicious software is accidentally executed without additional hardware, or modification to the individual software applications or the underlying operating system.

In reference to claims 29 and 46, wherein said inspection module further comprises callback functions, said functions communicated to said firewall core and providing communication between said firewall core and said inspection module.

Williams does not expressly disclose the use of callback functions which communicate to the firewall core and providing communication between the firewall core and said inspection module.

O'Brien discloses a set of callback functions, retrieved from said inspection module, each said function providing communication between the security master and said inspection module (column 5 lines 15-27)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use callback functions from security modules as in O'Brien to provide protocol inspection in the system of Williams. One of ordinary skill in the art would have been motivated to do this because callback functions allow the security modules to communicate with the user space so that security information that is application and resource specific which would reduce the damage that malicious software can cause in the event that malicious software is accidentally

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executed without additional hardware, or modification to the individual software applications or the underlying operating system.

In reference to claims 30, 37, 42, 47, wherein each said at least one inspection module and new inspection module are each further configured to indicate to said firewall core for which protocol for data packets said inspection module is configured to provide inspection (column 7 lines 29-47 in combination with column 6 lines 1-6).

In reference to claims 31 and 34, wherein each data packet intercepted by said firewall core further includes session information comprising address and port data (column 5 line 60 to column 6 line 6), the firewall core further configured to map said session information for each said data packet to one of said at least one inspection modules and the new inspection module (column 7 lines 35-47).

In reference to claim 33, wherein said communication unit further configured to intercept network data communicated via each of said plurality of communication interfaces (Fig. 2).

In reference to claims 35, 38, 41, and 45, wherein said communication unit is further configured to communicate a packet between said communication interface and one of said at least one inspection modules (Fig. 2).

In reference to claims 40, and 44, further comprising enabling said inspection module, prior to communicating said set of callback function to said firewall core. The new information is used to filter packets therefore the new rules, provided by the security device, are in an enabled state similar to the state of the principle device.

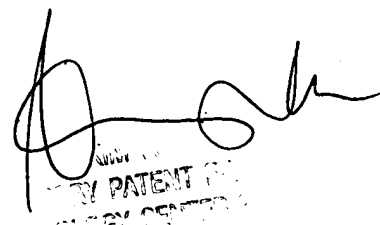
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paula W. Klimach whose telephone number is (571) 272-3854. The examiner can normally be reached on Mon to Thr 9:30 a.m to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PWK
Tuesday, December 20, 2005

A handwritten signature in black ink is written over a rectangular official stamp. The stamp contains the text "ELECTRONIC BUSINESS CENTER" and "PATENT" in a bold, sans-serif font. The signature is a cursive-style name, possibly "Paula W. Klimach".